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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/038,745	01/02/2002	Robert Jackson	FOC1100-1	2978

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EXAMINER

NGUYEN, NGOC YEN M

ART UNIT	PAPER NUMBER
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1754

DATE MAILED: 01/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/038,745

Applicant(s)

JACKSON, ROBERT

Examiner

Ngoc-Yen M. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4,6-8 and 32-45 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4,6-8 and 32-45 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 6-8, 32-41, 43, 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Torisu et al (US 2004/0028600) in view of Coneney (3,731,495).

Torisu '600 discloses, as shown in Figure 1, an electrolytic cell (110) for performing electrolysis of  $\text{KF} \cdot \text{HF}$ , a condenser (111) to remove HF from the fluorine gas coming out from the electrolytic cell (110), and a column (8) filled with NaF to reduce the HF concentration in the fluorine gas to 500 vol. ppm or less (note paragraph [0046]).

The column (8) is considered the same as the claimed sodium fluoride trap.

Torisu '600 also discloses a storage tank (7) (note Figure 1 and paragraph [0046]). For the pressure of the storage tank, it would have been obvious to one skilled in the art to select an effective pressure to prevent the fluorine from leaking to the surrounding atmosphere.

For the auxiliary equipment or manifold arrangement to support the operation of the traps, it would have been obvious to one of ordinary skill in the art to select appropriate auxiliary equipment or manifold arrangement to obtain the desired purification of the gas by passing it through the trap.

The difference is Torisu '600 does not disclose that there are two traps, which are arranged in parallel.

Coveney '495 discloses an apparatus for air separation, in which multiple adsorbent traps are used. These traps are arranged so that one is used for impurity adsorption and one is simultaneously regenerated (note claim 18).

It would have been obvious to one of ordinary skill in the art to arrange multiple sodium fluoride traps in parallel for the invention of Torisu '600, as suggested by Coveney '495 because by doing so, one trap can be used to remove the HF impurity while the other can be regenerated and this would allow the removing step to be carried out continuously without interruption for regeneration step.

Claims 42, 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Torisu '600 in view of Coveney '495 as applied to claims 1-4, 6-8, 32-41, 43, 45 above, and further in view of George (5,137,047).

Coveney '495 clearly teaches the step of regenerating the sodium fluoride trap by flow of heated nitrogen-rich purge gas there through (note claim 18). Coveney '495, however, does not disclose a means to pull vacuum on the sodium fluoride trap.

George '047 discloses that sodium fluoride in a trap can be regenerated by heating the bed to high temperature while running a vacuum pump (note column 4, lines 40-50).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to regenerate a sodium fluoride trap of Torisu '600 at high

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temperature under vacuum by running a vacuum pump as suggested by George '047 because such set up is known and conventional in the art. Without a showing of criticality or unexpected results, the use of a known apparatus to regenerate sodium fluoride trap as required in the instant claims is not seen as a patentable difference.

Applicant's arguments with respect to all claims have been considered but are moot in view of the new ground(s) of rejection.

Applicants argue that Margrave does not disclose the claimed system for continuously purifying fluoride generation cells coupled to a gas supply line.

The new reference, Torisu '600 is not applied to teach the above claimed limitation.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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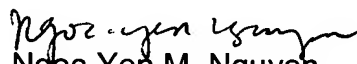
the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ngoc-Yen M. Nguyen whose telephone number is (571) 272-1356. The examiner is currently on Part time schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Stanley Silverman can be reached on (571) 272-1358. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 or (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed (571) 272-1700.

  
Ngoc-Yen M. Nguyen  
Primary Examiner  
Art Unit 1754

nmn  
January 9, 2006